THE STORY OF FLOORS

Cover: Mosaic Vinyl Corlon with Decorator Corlon Inlays and Strips

Copyright 1959 Armstrong Cork Company, Lancaster, Pa.

TAKE A cupful of coal dust and a splash of water and a sprinkle of chemicals. Add a dash of ingenuity and the sparkle of starlight. Now tilt the test tube, and pour out the floor of the future—a plastic floor that's sprightly as a spring day, durable as a doorknob, and easy to clean as an icicle.

It isn't that simple to make, of course, but the result is just as marvelous. Vinyl plastic flooring has been called "tomorrow's floor today" and "the miracle from a test tube" and "the most promising development in the history of the flooring industry."

When the "perfect" flooring is invented, scientists tell us, it will be—

—so inexpensive that every budget can afford it.

—almost impossible to indent permanently.

—springy and comfortable underfoot.

—completely resistant to moisture, alkalies, acids, grease, and any other substance.

—soilproof, so that it never needs cleaning and waxing.

Of all materials now known to science, probably vinyl plastic comes closest to satisfying all these demands.

Ten years ago you might have found it difficult to buy a vinyl floor. Some of it was being made, but few stores carried it. Then, as new uses were found for this wonderfully versatile material, came the revolution.

During the decade 1948-1958, the plastics segment of the flooring industry increased a hundredfold. In 1958 alone, an estimated 100 million square yards of plastic flooring were installed—enough for a belt of plastic 6 feet, 7 inches wide to encircle the Earth at the equator! If the trend continues, even this amount will be doubled by 1965.

Does this mean that Linoleum, Cork Tile, and other types of flooring are obsolescent? Not at all. Each type has its own special properties, and each fills an important place in the flooring family. But because of the remarkable qualities of vinyl, plastic floors lend themselves particularly well to innovations in design and production. Scientists at the Armstrong Research and Development Center are learning new secrets every day about the wonderful world of plastics, secrets that are transformed into striking new effects in flooring.

THE DEVELOPMENT OF FLOORS

The story of floors, as it winds through the history of mankind, can be followed back from the modern-day miracle of plastics to the earliest types, just sufficient to meet necessity.

The first floors were of earth, stamped smooth and hard. Sometimes these were covered with animal skins for warmth. Through the ages, some attempts were made to form flooring of pebbles, rough planks, or plaster. But up to the time of the Renaissance, most floors consisted of nothing better than tamped earth for the poor and slabs of rugged stone for the rich. A blanket of rushes was sometimes spread over the floor for whatever comfort and warmth it could add.

It was not until 1863—within the past 100 years—that an Englishman invented what we know as Linoleum, thus opening the way for the development of today's fine family of resilient floors.

When the discovery of Linoleum came, it was with a brilliant burst of serendipity. Frederick Walton had been searching for a way to make artificial leather. One day he noticed that a can of paint had been left open in his laboratory. Curious about the rubbery film that had formed over the surface of the paint, he scraped it off. This

Colorful Spatter Linoleum

paint "skin," he found, was caused by oxidation of the linseed oil in paint. Walton was sure that a commercial use could be found for the tough, pliable substance.

His first thought was to make a varnish from the oxidized linseed oil. But it wouldn't dry properly, and his experiments in this direction led nowhere. Walton's funds were running low by this time, and he almost gave up in despair.

Then one day he idly tried pressing the linseed oil skin onto burlap backing. The result: a smooth, flexible material, with astoundingly good durability. Walton suddenly perceived that he had devised a substance that would serve as a comfortable, long-wearing floor, and one that could be

Modernistic Decoresq Vinyl Corlon

produced inexpensively. He lost no time in patenting his new "Linoleum." This word he coined himself, from *linum,* the Latin word for the flax plant from which linseed oil is derived, and *oleum,* Latin for oil.

Walton's 19th-Century method of making Linoleum is essentially the same process used today. Since his time, though, many improvements have been made to its quality. Today's fine Linoleum is a far better flooring than that produced by Walton's early efforts.

From Linoleum sprang a whole family of resilient flooring materials. Low-cost Asphalt Tile. Cushiony, quiet Rubber Tile. Smooth, luxurious Vinyl Plastic, in both sheet and tile form. Vinyl Cork Tile, with cork particles protected under clear plastic. Vinyl-Asbestos Tile, the do-it-yourselfers' favorite. Linotile, one of the most durable of them all; and warm, natural Cork Tile, most comfortable.

There's a type to fit virtually every need, each with its own special characteristics. And they all share these mutual advantages of resilient flooring: color and decorative appeal; the ability to spring back into shape after indentation; a smooth, splash-resistant surface that is easy to clean; and years of wear, when installed and maintained properly. Resilient floors never splinter, never become waterlogged, never need costly refinishing.

VINYL CORLON (Sheet Plastic Flooring)

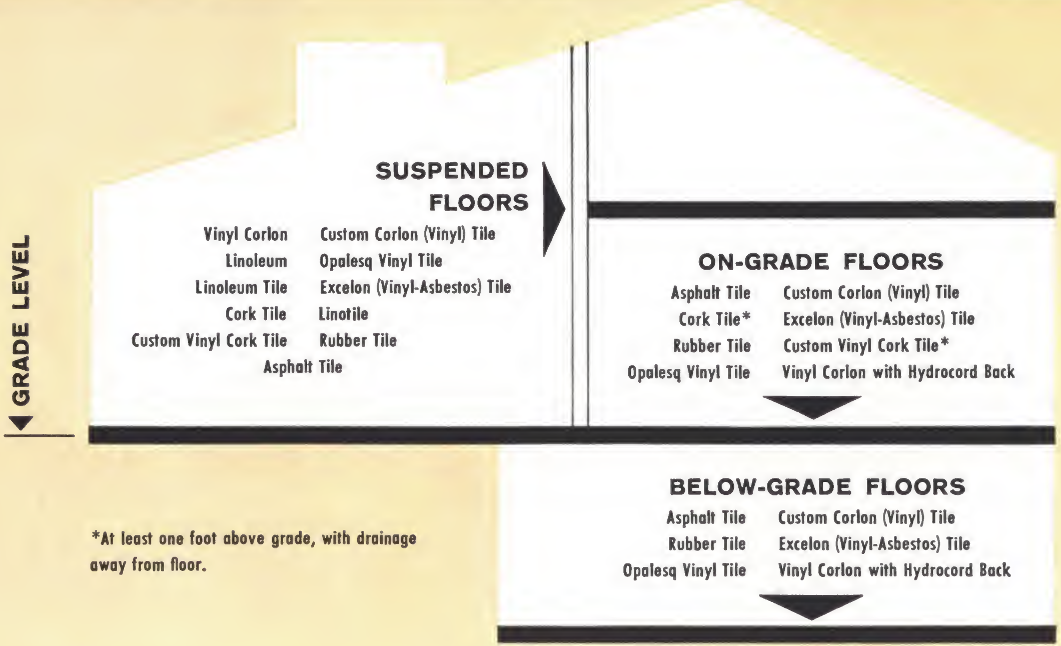
One of the most popular types of plastic flooring is Armstrong Vinyl Corlon. This product, made in a continuous sheet 6 feet wide, was the first inlaid plastic flooring ever made in a decorative patterned effect.

Let's take a quick tour through the Armstrong Floor Plant at Lancaster, Pa., world's largest facility for producing flooring, to see how Vinyl Corlon is made.

As with any recipe, it's first necessary to assemble the proper ingredients. Five basic

WHICH FLOOR GOES WHERE?

Design and wearability are two important factors to consider in choosing the right floor for your home. A third is the location of the subfloor, since the alkaline moisture found in concrete subfloors on or below grade level can be harmful to certain types of flooring. However, recent developments in floors, backings, and adhesives now make it possible to install as many as half a dozen different types in cellar recreation rooms. And, as the diagram shows, all kinds of resilient floorings can be used on suspended subfloors.



*At least one foot above grade, with drainage away from floor.

raw materials are needed to form the plastic wearing surface of Vinyl Corlon: (1) the vinyl resins themselves, in granular form, which give the finished floor its strength; (2) the plasticizer, a liquid organic chemical that changes the solid resins into a doughy, elastic mass; (3) the stabilizer, a metallic preparation that "fixes" the mixture, assuring that the color of the finished product remains stable; (4) pigments, the brilliantly hued powders that give the flooring its color and design; and (5) the extender, a special substance that enables the floor to last many, many years.

These five basic ingredients are gently smoothed together, in just-so proportions. Then "hard mixing" begins, inside a giant kettle. The materials are whipped and whirled, tossed and tumbled, pounded and pulverized, till they are blended into one even-textured mass. Now the grinders take over. Their huge steel jaws chew the mix thoroughly, spitting out particles of the proper size between their whirling teeth.

The tiny particles stream downstairs for the next operation, called "mottling." Here they meet, for the first time, the other vinyl chips with whom they'll spend their long lives. The particles are combined in varying colors and sizes, depending on the design effect wanted.

Then the well-mixed ingredients are bonded to a felt backing under tremendous heat and pressure. Finally, the vinyl is given a smooth finish to make it easy to clean.

During every phase of its production, the high quality of this flooring is assured through tests and inspections. Expert inspectors examine the raw materials, then the vinyl particles before they're smoothed onto the backing, and finally the finished material. Sections are cut from each flooring run and sent to the laboratory, where technicians see that they meet rigid quality standards.

Before it is packaged, every yard of Vinyl Corlon is run onto tables 120 feet long, where sharp-eyed inspection teams scan it to make sure it is perfect in every respect.

Vinyl Corlon is highly flexible, resilient, and comfortable underfoot. It resists staining and the harmful effects of alkalies, dilute acids, greases, and virtually every other common household chemical. Its ultra-smooth surface is easy to keep clean and sanitary. Because this flooring is installed in wide sheets, it offers almost no seams through which water can seep, no crevices to catch dirt.

The range of color and pattern effects that can be achieved in plastic flooring is almost limitless. Today, for example, a wide variety of granite-like, terrazzo, mosaic, and textured patterns are available. One of the more striking styles, Futuresq Vinyl Corlon, was first introduced at Monsanto's "Home of the Future" in Disneyland. It combines opaque, clear, translucent, and metallic particles in one beautiful blend of color.

In one of the newest Vinyl Corlon designs, called Tessera, tiny cubes of vinyl float in a bed of translucent plastic for a true three-dimensional effect. Details of manufacturing this unique flooring, a product of Armstrong research, are still secret.

Homemakers may be especially interested in another development in the resilient flooring field: an air-filled foam underlayment that adds a luxurious springiness to the finished floor. Cushion-Eze Underlayment, as this "padding" is called, not only makes the finished floor much more comfortable to walk on, but also simplifies flooring installation in many cases.

Cooperating scientists at the Armstrong Research and Development Center have created a number of improvements in plastic flooring, to make space-age living more enjoyable and more comfortable. For example, they were responsible for the development of a special type of backing now used on some types of Vinyl Corlon. This new backing, known as Hydrocord, for the first time permits decorative sheet flooring to be installed anywhere, even in basements and other areas of the home below ground level.

As new ways are found to unlock the mysteries of molecular structure, these specialists in polymer chemistry expect to create still greater improvements in plastic flooring for the future.

Low-Cost Asphalt Tile

Easy-to-Install Excelon Vinyl-Asbestos Tile

OTHER VINYL-COMPOSITION FLOORS

The great adaptability of vinyl makes it suitable for a number of types of fine resilient floors. One of the most luxurious of these is Custom Corlon Tile, a homogeneous (sometimes called "solid") vinyl flooring. As the name suggests, these tiles are plastic through and through. They have no backing, and the wearing surface extends through the entire thickness of the floor.

Opalesq Vinyl Tile, newest of the all-plastic floors, features glittering metallic highlights imbedded right into its design. The metallic chips are protected from wear by durable, stain-resistant vinyl, so they won't be worn off the surface by foot traffic.

Combining vinyl resins with other materials makes it possible to offer some of the advantages of plastic flooring at a budget cost. Excelon Tile, a vinyl-and-asbestos combination, is such a floor. It's the top favorite of do-it-yourselfers because it is particularly easy to install. A paintbrush spreads its adhesive, and ordinary scissors will cut the tile to fit at edges of the room. Excelon can be installed anywhere.

Custom Vinyl Cork Tile is strictly a new development. It combines the durability and maintenance properties of vinyl with the lively warmth that has always been associated with cork. The beauty of the natural cork gleams up through a raindrop-clear vinyl surface that is smooth and easy to wipe clean.

OTHER TYPES OF RESILIENT FLOORS

While vinyl plastic floors are increasing in popularity, other types of smooth-surface flooring also have much to offer the home owner.

Linoleum, most familiar of all resilient floors and still one of the best for general use, is made in a broad range of designs and colors. In the Armstrong line alone, there are well over 100 Linoleum patterns. One type, called Embossed Inlaid Linoleum, has portions of its surface actually indented slightly. This gives it a realistic three-dimensional resemblance to planking, inset bricks and tiles, or flagstones.

For easier installation by the home handyman, and for special custom effects, Linoleum Tile is available. It consists of regular Linoleum cut into block form. Thus, it offers the same fine qualities of durability, grease resistance, and easy maintenance as regular sheet-type Linoleum.

Asphalt Tile, lowest in cost of all permanently installed types of resilient flooring, gained tremendous popularity during and just after World War II. Although it has since been replaced in many areas by more luxurious flooring, it still is a popular type

Comfortable Cork Tile

for basement family rooms and many commercial areas.

For interiors where quiet and luxurious underfoot comfort are desired, Cork Tile is a natural choice. The warm, nut-like tones of cork have a dignity all their own, and this flooring has long been a favorite for bedrooms, living rooms, and dens.

Linotile, regarded as the most durable of all resilient floors, is specially processed for resistance to wear. Designed for commercial use, it is also recommended for areas of the home that receive extra-heavy traffic. Linotile should not be confused with Linoleum Tile.

Rubber Tile is a top choice for foot-cuddling comfort, springy resilience, and extra quietness underfoot. It is noted for its lustrous, plate-smooth surface.

FLOOR COVERINGS

All the materials described above are *floors,* in a true sense. They are cemented permanently into place and are designed to give many, many years of service. Two types of smooth-surface *floor covering* are also available: Felt-Base and rotogravure vinyl. These are generally loose-laid for relatively short-term use. While they represent good values (their cost is quite low), they by no means compare with the permanent types of flooring in either wearability or resilience.

Vinyl Accolon, Armstrong's rotogravure vinyl material, is the newest member of the floor covering family. It is made of a sheet of clear plastic, laminated onto a felt backing that is printed with an intricate design. Vinyl Accolon is strong, stain resistant, and extremely flexible.

Quaker felt-base floor coverings are used in thousands of homes across the country. This budget-priced material is available both in pre-cut rugs—sometimes called, erroneously, "linoleum rugs"—and in continuous rolls. It consists of a smooth enamel surface printed on a special type of felt.

WALL COVERING AND COUNTER-TOP SURFACING

The qualities of beauty, flexibility, and resistance to staining that make plastic an ideal component of flooring also serve well in coverings for walls and counter tops.

Flexible Vinyl Plastic Surfacing

Armstrong Vinyl Plastic Surfacing is colorful, durable, and water repellent. Laboratory tests have shown that, for practical purposes, it is immune to staining from foods, common medicines, and household cleansers. The weak spot in any counter surfacing is its seams. This problem has been solved with Vinyl Plastic Surfacing, for its exceptional flexibility permits it to be installed on the counter and up the wall in one smoothly curved sheet.

Plastic Accowall is a new type of low-cost wall covering. It consists of a tile-like design printed on a backing of felt. A smooth plastic finish ensures that the material retains its color and design without fading, and that it whisks clean with a damp cloth.

Today's resilient floors make available to every home owner a degree of luxury that even the wealthiest kings of yesteryear could not achieve. At this point, the future promises floors that are even more beautiful and more practical than ever before—and in many ways, the "floors of the future" are here already!

You can see the whole gleaming galaxy of Armstrong floors at a number of retail outlets throughout the country: department stores, furniture stores, lumber yards and, of course, flooring specialty shops. You'll find them listed in the Yellow Pages.

Your flooring dealer will aid you in choosing the type you need and will show you how a new floor can make your home more beautiful, more comfortable, and more valuable. He can also tell you how to install it yourself or can help you arrange to have it installed by professionals.

Armstrong
CORK COMPANY

Armstrong resilient floors and their components are manufactured at these plants across the nation:

Braintree, Mass.
Fulton, N. Y.
Jackson, Miss.
Kankakee, Ill.
Lancaster, Pa.
Pittsburgh, Pa.
South Gate, Calif.

CHARACTERISTICS OF RESILIENT FLOORING MATERIALS

		UNDERFOOT COMFORT	GREASE RESISTANCE	ALKALI RESISTANCE	DURABILITY	EASE OF MAINTENANCE	APPROXIMATE PRICE PER SQUARE FOOT*	KEY POINTS
SHEET FLOORING	**Linoleum**	Good	Excellent	Poor	Good	Excellent	35–60¢	Easy to maintain, virtually seamless when installed.
	Vinyl Plastic (Vinyl Corlon)	Good	Excellent	Excellent	Excellent	Excellent	45–60¢ (higher for Futuresq and Tessera)	Durable, resistant to both grease and alkalies; minimum of seams.
TILE FLOORING	**Asphalt Tile**	Least comfortable	Poor to fair	Excellent	Excellent	Good	20–45¢	Low cost.
	Linoleum Tile	Good	Excellent	Poor	Good	Excellent	20–45¢	Linoleum cut into blocks.
	Vinyl-asbestos Tile (Excelon)	Fair	Excellent	Excellent	Superior	Superior	35–60¢	Easy to install; colorful, may be used anywhere.
	Linotile	Good	Excellent	Poor	Superior	Superior	60–70¢	Specially processed for long wear.
	Cork Tile	Superior (most comfortable)	Fair	Fair	Good	Fair	45–90¢	Rich, natural appearance; quiet and comfortable to walk on.
	Rubber Tile	Excellent	Good	Good	Good	Good	60–90¢	Exceptional resistance to indentation.
	"Solid" Vinyl Tile							Luxury floorings in many design effects; durable, easy to clean.
	(Custom Corlon)	Excellent	Superior	Superior	Superior	Superior	70¢–$1.30	
	(Opalesq Vinyl)	Excellent	Excellent	Excellent	Superior	Superior	$2.40–2.75	
	Vinyl Cork Tile	Very good	Excellent	Good	Good	Superior	95¢–$1.30	Natural cork protected under smooth clear plastic.

*** Includes cost of installation over sound concrete.**

"So many types! How can I tell which is best for me?"

Understanding the differences between the various types of flooring is important in choosing the best floor for a specific purpose. Armstrong Cork Company—the one flooring manufacturer that produces *all* types—offers this resumé of flooring characteristics for both sheet and tile forms.

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F-1222-959 A

Printed in United States of America

F-1222-959 A

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